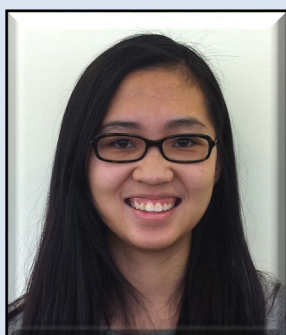


Condensed Matter Colloquium

Thursday, March 27, 2014

2 pm, Room 1201



Angela Kou

**Department of Applied Physics
Yale University**

*Fractional Quantum Hall
Effect in Bilayer Graphene*

The nature of fractional quantum Hall (FQH) states is determined by the interplay between the Coulomb interaction and the symmetries of the system. The unique combination of spin, valley, and orbital degeneracies in bilayer graphene is predicted to produce novel and tunable FQH ground states. Here we present local electronic compressibility measurements of the FQH effect in the lowest Landau level of bilayer graphene. We observe a sequence of incompressible FQH states that breaks particle-hole symmetry and instead obeys a $\nu \rightarrow \nu + 2$ symmetry, which highlights the importance of the orbital degeneracy for many-body states in bilayer graphene ^[1].

^[1] A. Kou, B. E. Feldman, A. J. Levin, B. I. Halperin, K. Watanabe, T. Taniguchi, A. Yacoby, arxiv:1312.7033

HOST: Vladimir Manucharyan

Refreshments served at 1:30 in **Room 1305F**